

Students use Hubble to make science observations

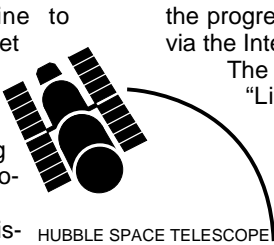
Students in grades K-12, working alongside some of America's foremost astronomers, will have a chance this spring to help do real science observations using the Hubble Space Telescope.

The resulting observations will be featured in a live, interactive telecast on NASA Television and public television in March and April.

The observing time was offered for students by astronomers from a lively discussion and debate via the Internet. Students were challenged to go on-line to research and decide which planet in the solar system would be best to study. Neptune and Pluto were selected as targets by students who will be serving as Hubble Space Telescope "Co-Investigators."

Over the next two months, mission planners will transform the students' selection into detailed plans for the observations. Students will be able to follow the progress of their upcoming observations via the Internet.

The students then will be featured on "Live from the Hubble Space Telescope: Making Your Observations" airing at noon JSC time, March 14, and on "Live from the Hubble Space Telescope: Announcing Your Results" airing at noon, April 23. "Live from the Hubble Space Telescope" is part of the ongoing Passport To Knowledge series.



Deadline for scholarship approaching

Scholarship applications for both the NASA Exchange-JSC Scholarship Program and the NASA College Scholarship Fund are due by March 29.

The Exchange Council expects to award one scholarship to a student on the basis of academic achievement, financial need and involvement in school or community activities. The scholarship program is open to students currently enrolled and in good academic standing in college, or who will graduate from a public, parochial or private high school this year and who are dependents of eligible JSC employees.

Scholarship support of up to \$4,000 will be provided in the amount of \$400 per semester, \$250 per academic quarter and \$200 per summer session, or as the Exchange Council determines. The amount will not exceed \$1,000 in any one-year period.

High school applicants must furnish a transcript of their grades and a record of their scores on either the Scholastic Aptitude Test or the American College Test with their applications or as soon as the results become available. Test results must be furnished prior to March 29.

College students must furnish the most recent transcript with the application, as well as high school grades and either SAT or ACT scores.

Application forms and the students' scholastic records will be evaluated by the JSC Scholarship Committee. All applicants will be notified by mail of the results by approximately May 15.

Application forms and agreements for the Exchange Council scholarship are available in Bldg. 1, Rm. 457. Please contact Judy Ernul, x31812, for the forms, or Debra Johnson, x34157, for information. To be considered for this year's program, forms must be returned by March 29, in a sealed envelope to: D.L. Johnson, chairman, JSC Scholarship Committee Mail Code B1.

Separate applications for the NASA College Scholarship Fund also are due by March 29.

This fund will award five scholarships of \$2,000 each. The scholarship is renewable for six years, not to exceed \$8,000. Applicants must be pursuing an undergraduate degree in science or engineering.

Applicants must be dependents of current or retired NASA employees or dependents of former NASA employees who died while employed by NASA. Applicants must be graduated from an accredited public, private, or parochial high school or be currently enrolled in college with good academic standing. An applicant must have a combined high school grade and college grade point average of 2.5 on a 4.0 scale.

After meeting the minimum requirements, applicants will be ranked based on the following objective standards: academic preparation, including grades, class rank, and pattern of courses; school activities; community activities; performance on SAT or ACT; written recommendations from individuals who know applicant; and one-page statement of academic purpose by applicant. Applications are available in Bldg. 1, Rm. 840. Completed applications may be mailed to JSC, the NASA College Scholarship Fund, Inc.; Mail Code AH12/Scholarship Committee; Houston, TX; 77058.



RETURN TO MIR—STS-76 Mission Specialists Linda Godwin and Mike Clifford check out their crew storage for the March 21 docking with the Russian Mir Space Station. Godwin and Clifford will be joined by Commander Kevin Chilton, Pilot Rick Searfoss, Mission Specialist Ron Sega and Mission Specialist/Cosmonaut Researcher Shannon Lucid. The third docking will transfer Lucid for a four and a half month stay on Mir.

No danger to crew during tether break

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Allen, Pilot Scott Horowitz, Mission Specialists Jeff Hoffman, Claude Nicollier, Franklin Chang-Diaz and Maurizio Cheli and Payload Specialist Umberto Guidoni were never in any danger.

"It has always been our utmost priority to make sure that we could keep ourselves safe," Allen said. "As it turned out, having the tether break inside the boom was probably the best case that could happen as far as having to maneuver *Columbia*. No maneuvering was necessary and we assessed that pretty rapidly."

The tether apparently snapped near the top of the 39-foot boom in *Columbia's* payload bay. The satellite began moving away from the shuttle as a result of orbital forces.

"Once we realized that the tether had broken at the very bottom, we understood that it posed no danger and at that point we tried to photograph it," Hoffman said. "We did see this big jumble of tether moving away and after a few minutes it disappeared into the sunset and that is the last we saw of it."

For the next two days, Mission Control continued to collect data from TSS for science investigations until the batteries lost power.

The TSS deployment had been delayed until Sunday because of a balky data relay system. The Smart Flexible Multiplexer Demultiplexer, or Smart Flex, was experiencing an overload and switched itself to a back-up system. The Smart Flex was crucial to sending commands and data to the satellite-related experiments in *Columbia's* cargo bay. The crew spent Saturday morning activating

each experiment individually trying to troubleshoot the problems. Once all experiments were activated, Smart Flex began transmitting data successfully so mission managers decided watch the system for 24 hours before beginning the deployment.

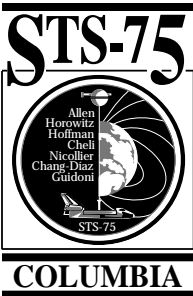
With no problems reported in 24 hours, the crew began to deploy the satellite at 2:45 p.m. Sunday. The crew slowly unreeled the satellite, reporting little oscillation in the tether. When the satellite was nearing the end of deployment the tether broke and slowly moved away from *Columbia* into the darkness of space. The satellite is expected to reenter the Earth's atmosphere in 20 to 30 days.

After the remaining tether was reeled back into *Columbia's* payload bay and the boom retracted, the crew turned its attention to the United States Microgravity Payload. USMP activities were going well mid-week as scientists collected data from a variety of experiments. Scientists are able to monitor or make changes via computers at Marshall.

Meanwhile, an investigation team has been established to look into the loss of the TSS.

"Given the public investment in the tethered satellite, it is important that we find out what went wrong," said Wil Trafton, acting associate administrator for the Office of Space Flight, Monday. "To do any less would be a disservice to the American and Italian people."

The team will be chaired by Kenneth Szalai, director of the Dryden Flight Research Center, and will give a preliminary report with recommendations to Trafton within 75 days.



JSC takes precautions against dry conditions

Texas, including JSC, is under an extreme fire hazard alert because of the dry conditions and JSC safety officials are taking precautions.

"You may be aware of the large number of grass fires in Texas, we recently had a small one in the field just northwest of Bldg. 44," said Stacey Nakamura, chief of the Safety Health and Environmental Compliance Office. "Due to these dry conditions we are not allowing model rocket launches pending better weather."

JSC has taken these extra precautions due to the Texas Forestry Service alert about the dry conditions throughout Texas. Once conditions improve and the area receives substantial rainfall, the Forestry Service and JSC will suspend their alerts.

"The ground can still be moist but the vegetation could be dry or dead," Nakamura said. "We are asking employees to please be extra careful with flammables, including cigarettes, during these dry conditions."

Nakamura added that employees who drive off-road need to take extra precautions because they could ignite grass fires with their car's catalytic converter. For more information on the fire alert or fire protection, call the Fire Protection Engineer, Gary Jackson at x34090.

Life science three-day conference begins Tuesday

The benefits of medical research conducted in space will come down to Earth during a three-day conference hosted by NASA and the American Institute of Astronautics and Aeronautics set to begin Tuesday in Houston.

JSC Director George Abbey will welcome conference attendees to the Life Science and Space Medicine Conference and Exhibition being held March 5-7 at the Sheraton Astrodome Hotel.

Civil servants may register to attend the conference by calling Glen Van Zandt at x33069. Others interested in attending the conference may call the AIAA at 1-800-NEW-AIAA for program details and registration forms.

March deadline near for technical papers

The March 15th deadline for papers to be presented at the 21st annual Technical Symposium is rapidly approaching.

The American Institute of Aeronautics and Astronautics is seeking papers to be presented at the 21st annual Technical Symposium to be held May 23 at the Center for Advanced Space Studies.

The theme of this year's symposium is "New Frontiers Through Technologies, Process and Paradigms." Government and contractor employees are encouraged to write a paper, which does not require formal AIAA publication, or demonstrate some new hardware or software product they have developed. The symposium is being hosted by the local section of the AIAA and the Lunar Planetary Institute and will be held at the Center for Advanced Space Studies at 3600 Bay Area Blvd.

Abstracts should be 250 words or less and must be double-spaced. Electronic submission, demonstrations and exhibits of hardware are encouraged. Presentations will be limited to 20 minutes. Vu-graphs or 35mm slides are preferred with handouts available.

Abstracts should be submitted with a NASA Form FF427 and a paper/author information sheet to Charles Teixeira, Mail Code EA63, or email at cteixeir@gp903.jsc.nasa.gov

For more information call Teixeira at x34647.

More choices available to retirees in Career Plus+ program

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and gaining office space and electronic connectivity to JSC.

In addition to the "incubator" services, JSC will contract with the retiree for work on the technology project. Retirees will be paid what employees would earn under the "Phased Retirement" or "Partners in Education" retirement options. A significant difference from the other Careers Plus+ options is that participants in "Partners in Technology" are not rehired as reemployed annuitants. This new option lasts for one year with an optional second year if specified commercialization

milestones are met.

To participate, employees must apply by June 30 and disqualify themselves from any further development, test or study on behalf of the government with regard to the identified technology. If the license is granted, the employee should contact the Legal Office for advice on potential conflict of interest issues. The employee must retire by Sept. 30 unless an extension is necessary due to delays in the licensing process.

The expanded "Partners in Education" option helps employees transition to teaching positions in

grades nine through twelve in public schools. Preference will be given to teaching arrangements involving math and science. As with most other Careers Plus+ options, employees voluntarily retire and are hired back as reemployed annuitants working a maximum of 1040 hours for up to two years. These hours are spent taking classes through the Teacher Certification Program at the University of Houston Clear Lake, teaching at a participating school district and supporting JSC's educational outreach program run by the Public Affairs Office.

The pay arrangement is similar to the Partners in Education College Option. Additionally, JSC will pay for certification training for up to two years. Employees must have a bachelor's degree to participate in this program and must retire by Sept. 3.

Employees interested in the "Partners in Technology" option, should contact the Technology Transfer Office at x30295, or the Human Resources Management Branch at x36251. For more information on the "Partners in Education" option, please call the Human Resources Development Branch at 35266.